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Trends in leprosy case detection in Rwanda 1995-2011: analysis of 17 years

U. Innocent[1,*], E. Kamanzi[2], J.-F. Flandin[3], E. Mukamukwiye[1], N. Bizimungu[1], F. Ingabire[1], J.C. Ngabonziza[1]

[1] *National Reference Laboratory Ministry of Health, Kigali, RW, Rwanda*
[2] *NRL, Kigali, RW, Rwanda*
[3] *National Reference Laboratory, Kigali, Rwanda*

Background: Leprosy, or Hansen's disease, is a chronic, infectious disease caused by *Mycobacterium leprae*. It remains one of the leading causes of deformity and physical disability. We analyzed the laboratory records to assess trends in prevalence rate (PR) and case detection rate (CDR) in Rwanda.

Methods: A retrospective laboratory records review of detected leprosy cases over a 17-year period (1995–2011) was conducted at the National Reference Laboratory. Skin biopsy samples were analyzed microscopically using Ziehl Neelsen (ZN) staining technique to identify Hansen's bacilli.

Results: Cumulatively 266 suspected cases were reported between 1995 and 2011. Among suspected cases, 77 (28.9%) were laboratory confirmed as having leprosy. Among detected cases,76.6% were males and 23.4% females. The male-female ratio is 3:1. The registered leprosy cases over the past 17 years are 77 cases and the prevalence rate (PR) is 0.005/10,000 population. A graudual decrease of PR was oberved over the eight (8) past years from 0.015 per 10,000 population in 2003 to 0.003 per 10,000 population in 2010. From 1995 to 2011 CDR did not exceed 1 per 10,000 population. Multibacillary (MB) patients having bacteriological index ranging from 1+ to 4+ were highly represented (94.4%) in the last five (5) years while the paucibacillary patients were less represented 5.6%.

Conclusion: Laboratory review demonstrates a considerable tendency of decline in PR and CDR trends up to date. Early case detection and sustainable leprosy control program remains the cornerstone to reduce physical and socioeconomic burden of leprosy in the country.

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Fine needle aspirate as a useful tool in the diagnosis of tuberculous lymphadenitis in Rwanda

U. Innocent[1,*], O. Mukabayire[2], J.B. Gatabazi[3], T.V. Mubako[4], V.B. Bigirimana[5], L. Ngendahayo[6]

[1] *National Reference Laboratory Ministry of Health, Kigali, RW, Rwanda*
[2] *Ministry of Health, Kigali, Rwanda*
[3] *National Reference Laboratory, Kigali, Rwanda*
[4] *NRL, Kigali, RW, Rwanda*
[5] *Kigali University Teaching Hospital, Kigali, Rwanda*
[6] *Butare University Teaching Hospital, Butare, RW, Rwanda*

Background: The number of people infected with tuberculosis is gradually increasing in Rwanda. The diagnosis of suspected tuberculous lymphadenitis is still difficult to diagnose and remains expensive when applying surgical procedures. We aimed to study the usefulness of fine needle aspirates in diagnosis of tuberculous lymphadenitis in patients from a low income country.

Methods: Triplicate smears from lymph node aspirates were prepared. Air-dried smears were stained by hot ZN staining technique for AFB examination, and Giemsa staining technique for exclusion of any bacterial infection and Papanicolaou staining technque was done for cytological to detect malignant cells and other pathology. Slides were examined by laboratory biotechnologist and pathologist.

Results: A total of 138 specimens from suspected tuberculous lymphadenitis patients were analyzed, of which 14 (10.1%) were ZN positive. From Papanicolaou stain 10 (7.2%) cases were supportive for TB, 15 (10.9%) were suspicious for TB while in 113 (81.9%) there was no features for TB. Among 25 cases which were supportive or suspicious for TB only 6 cases (4.3%) were also ZN positive and 19 (13.8%) were ZN negative. Out of 113 specimens which were no indicative for tuberculosis on cytology, 8 (5.8%) were ZN positive while 105 (76.1%) were both ZN negative and Papanicolaou negative for tuberculosis. Cytology revealed 25 (18.1%) cases of TB lymphadenitis, 19 (13.8%) reactive nodes, 33 (23.9%) inadequate samples and 25 (18.1%) other pathology. Gram stain showed 2 (1.4%) cases of Gram positive cocci.

Conclusion: In low income countries, the use of FNA cytology should be considered as a useful tool in diagnosis of TB lymphadenitis instead of biopsy applying surgical procedures.

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